UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF TENNESSEE
NASHVILLE DIVISION

TERRY LYNN KING,	)	
	)	**Civil Action No. 3:18-cv-01234**
Plaintiff,	)	
	)	
v.	)	**CAPITAL CASE**
	)	
	)	
TONY PARKER, et al.,	)	**Judge William L. Campbell, Jr.**
	)	
Defendants.	)	

PLAINTIFF'S OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

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INTRODUCTION

The sole claim at issue is whether Tennessee's July 5, 2018, lethal injection protocol (the "Protocol") violates the constitutional prohibition against cruel and unusual punishment. The record evidence demonstrates that, at a minimum, the following genuinely disputed facts material to this claim require a trial:

- Midazolam, the first drug in the Protocol, cannot prevent a prisoner from experiencing the excruciating pain and suffering caused by administration of vecuronium bromide and potassium chloride, the second and third drugs in the Protocol;
- Administration of the three drugs used in the Protocol is sure or very likely to cause an unconstitutionally high level of pain and suffering, including feelings of suffocation, asphyxiation, drowning, or burning alive;
- The "safeguards" in the Protocol are illusory and, in any event, scientifically and medically insufficient to ensure that a prisoner is not experiencing the pain and suffering that will result from administration of the three drugs used in the Protocol;
- Defendants and the members of Tennessee's Execution Team do not in practice follow the instructions and other "requirements" of the Protocol; and
- Alternative methods of execution that would significantly reduce the substantial risk of severe pain and suffering are feasible and could be readily implemented.

Plaintiff disputes Defendants' position on these and other material facts with extensive medical and scientific evidence from experts representing a variety of backgrounds and disciplines, all of whom are prepared to testify before this Court and explain the deficiencies of the Protocol in detail. Plaintiff's position is reinforced by testimony and documents from Defendants and members of the Execution Team.

Defendants largely ignore most of this evidence and the requirement that the Court construe the facts in the light most favorable to Plaintiff at this stage. Instead, Defendants argue merely that their version of the facts is correct and that Plaintiff's is incorrect. The very existence

of such diametrically opposed positions amply demonstrates genuine disputes as to material facts.

FACTUAL BACKGROUND

On July 5, 2018, Tennessee adopted the Protocol at issue in this litigation. The Protocol calls for the administration of the following three lethal injection chemicals ("LIC"):

Midazolam	100 ml of a 5mg/ml solution (a total of 500 mg)
Vecuronium Bromide	100 ml of a 1mg/ml solution (a total of 100 mg)
Potassium Chloride	120 ml of a 2 mEq/ml solution (a total of 240 mEq)

Def. Ex. 6, Protocol at 34. Plaintiff challenges the Protocol on its face, claiming it violates the Eighth Amendment as applied to the states through the Fourteenth Amendment. Am. Compl., Dkt. 51.

Plaintiff proposes five alternatives to the Protocol: (1) single bullet to the back of the head; (2) firing squad; (3) euthanasia oral cocktail; (4) injection of midazolam and potassium chloride; and (5) injection of pentobarbital. *Id.*

LEGAL STANDARD

Summary judgment is appropriate only "if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). In determining whether the moving party has met its burden, the court must view the factual evidence and draw all reasonable inferences in the light most favorable to the non-moving party. *See Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586–88 (1986); *McLean v. 988011 Ontario, Ltd.*, 224 F.3d 797, 800 (6th Cir. 2000). The Court "does not weigh the evidence, judge the credibility of witnesses, or determine the truth of the matter." *Murray v. Meharry Med. Coll.*, No. 3:19-CV-00925, 2022 WL 96630, at *2 (M.D. Tenn. Jan. 10,

2022) (Campbell, J.) (citing *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986)). The Court determines only whether sufficient evidence has been presented to make the issue of material fact a proper question for the finder of fact. *Id.* (citing *Anderson*, 477 U.S. at 249).

"[C]ompeting expert opinions present the 'classic battle of the experts.'" *Phillips v. Cohen*, 400 F.3d 388, 399 (6th Cir. 2005) (quoting *Cadmus v. Aetna Cas. & Sur. Co.*, 1996 WL 652769 (6th Cir. Nov. 7, 1996) (unpublished)). "A 'battle of the experts' is a question left for the finder of fact." *Auto. Experts, Inc. v. Kallberg*, No. 3:19-CV-00982, 2021 WL 2260058, at *17 (M.D. Tenn. June 3, 2021); *Phillips*, 400 F.3d at 399 ("[W]eighing the credibility of competing expert reports amounts to improper fact-finding. . . . [I]t [is] up to a [fact-finder] to evaluate what weight and credibility each expert opinion deserves."). Accordingly, "the Court cannot determine at [the summary judgment] stage whether or not a particular expert is more credible or accurate than another expert." *Auto. Experts, Inc.*, 2021 WL 2260058, at *17.

ARGUMENT

To succeed on his Eighth Amendment claim, Plaintiff must (1) show that the Protocol is "sure or very likely to cause serious illness and needless suffering" and (2) "identify an alternative that is feasible, readily implemented, and in fact significantly reduces a substantial risk of severe pain." *Glossip v. Gross*, 576 U.S. 863, 877 (2015) (internal quotations, alterations, and citations omitted). The parties dispute facts that are material to both prongs of this analysis.

I. The Protocol Violates The Eighth Amendment.

A. The Three Drugs Used in the Protocol Are Sure or Very Likely to Cause Unconstitutionally Severe Pain and Suffering.

The crux of the parties' factual dispute regarding the three drugs used in Tennessee's Protocol is whether midazolam, the first drug called for by the Protocol, can render a prisoner insensate to the pain caused by the injection of vecuronium bromide and potassium chloride, the

second two drugs in the Protocol. Understanding this dispute requires the definition and explanation of several key terms, the first of which is "consciousness." Experts on both sides of this case agree that "consciousness is not an off-or-on switch: it exists in a continuum of varying degrees." Pl.'s Stmt. Add'l Material Facts ("PSAMF") ¶ 1 (quoting Def. Ex. 15, Van Norman Rep. at 14; *see also* Def. Ex. 13, Antognini Dep. 76:12–22 (explaining that consciousness is not "an all or none phenomenon," but "is really a spectrum")). "Consciousness" and "responsiveness" are separate and distinct concepts; a person can be conscious and sensate—that is, able to perceive sensory experiences, including pain—yet unable to respond and demonstrate that consciousness. PSAMF ¶ 2. A lack of responsiveness or movement in no way signifies that a person is "unconscious" such that they cannot experience sensations of pain and suffering. PSAMF ¶ 3.

Understanding that consciousness exists on a continuum and is entirely distinct from responsiveness is important because "a lack of consciousness does not necessarily mean that an individual cannot feel pain." PSAMF ¶ 4 (quoting Def. Ex. 11, Stevens Rep. at 8). Instead, "the proper terminology refers to depth of responsiveness, levels of sedation/analgesia, and general anesthesia." PSAMF ¶ 5 (quoting Def. Ex. 11, Stevens Rep. at 9-11). A state of "general anesthesia" is defined as a combination of analgesia or antinociception (lack of pain), amnesia (lack of recall), lack of awareness, and immobility with significantly painful or noxious surgical stimulation. PSAMF ¶ 6.

Because noxious or surgical stimulation can vary in type and degree, any discussion of whether a particular drug can "produce unconsciousness" is nonsensical unless it defines the particular stimulus against which the drug must produce and maintain unresponsiveness. PSAMF ¶ 7. In general, the more severe a stimulus is, the deeper the "unconscious" state must be to

maintain unresponsiveness throughout the duration of the stimulus, and, thus, the deeper the anesthesia generally must be. PSAMF ¶ 8. For example, as Defendants' expert explained, less anesthetic may be required for the stimulus of a trapezius squeeze than for stimulus by surgical incision. PSAMF ¶ 9 (citing Def. Ex. 13, Antognini Dep. 77:23–78:4).

Unresponsiveness on its own does not necessarily indicate that a person is unable to feel pain. Pl.'s Resp. SUMF ¶ 132. Unresponsiveness without "unconsciousness" can occur due to (1) physical impediments, e.g., a person may be given a drug that paralyzes their muscles so that the surgeon can work within the belly, and yet still be fully awake; (2) nonphysical impediments, such as fear or surprise, e.g., being "frozen" by terror; and (3) physiological problems within the brain itself, e.g., strokes and drug effects that interrupt outgoing nerve signals and prevent purposeful movement even though muscles are not paralyzed and the person is conscious of their surroundings and can feel pain (sometimes called "locked-in syndrome"). PSAMF ¶ 10. Even persons who were until recently believed to be permanently "unconscious" (i.e., those in persistent vegetative states or comas) retain advanced abilities to receive and integrate information from their surroundings, and, thus, can still experience pain and suffering. Pl.'s Resp. SUMF ¶ 25.

Bearing these definitions and context in mind, the parties' dispute over whether midazolam can render a prisoner insensate to the pain caused by the second two drugs in the Protocol can be broken down into two subparts: (1) a dispute as to whether midazolam can achieve a state of general anesthesia, and (2) a dispute as to whether a state of general anesthesia is needed with respect to the severity of the stimuli caused by the second two drugs.

1. Midazolam Cannot and Will Not Render Plaintiff Insensate to Pain.

Midazolam is a benzodiazepine drug, like diazepam (Valium) and alprazolam (Xanax). PSAMF ¶ 13. It is classified as a sedative hypnotic, meaning it can cause sedation and hypnosis. PSAMF ¶ 14. Midazolam is not classified as an anesthetic. PSAMF ¶ 15.

That is where the parties' agreement regarding midazolam ends. Defendants contend that midazolam has analgesic properties; Plaintiff says it has none. *See* Pl.'s Resp. SUMF ¶¶ 42, 49; *compare, e.g.*, Def. Ex. 15, Van Norman Rep. at 6 ("Midazolam has no analgesic (pain-relieving) properties. This is not opinion, but scientific fact, as is confirmed by all authoritative texts, as well as an extensive literature." (citations omitted)), Def. Ex. 11, Stevens Rep. at 15 ("A large number of peer-reviewed papers and textbooks clearly state that benzodiazepines, such as midazolam, do not possess analgesic activity."), *with* Def. Ex. 13, Antognini Dep. 203:19–22 ("I think there's sufficient data out there to suggest that [midazolam] has some analgesic properties, not nearly as much as opiates, for example, but some."). Defendants assert that midazolam is a lethal drug; Plaintiff maintains it is not. *See* Pl.'s Resp. SUMF ¶¶ 35, 40; *compare, e.g.*, Def. Ex. 11, Stevens Rep. at 15 ("Benzodiazepines are considered non-lethal because they do not cause death . . . ."), *with* Def. Ex. 9, Antognini Rep. at 9–10 ("Midazolam can result in unconsciousness, coma, respiratory arrest, and death . . . ."). Defendants claim midazolam can be used on its own as a sedative for colonoscopies and endotracheal intubations, while Plaintiff claims it cannot.[1] *See* Pl.'s Resp. SUMF ¶¶ 46, 50.

[1] Defendants claim this "undisputed fact" even in the face of contrary evidence from their own expert. *See* Pl.'s Resp. SUMF ¶ 46 (citing Pl. Ex. 3, Patel Dep. 140:23–143:21 (testifying that a pre-treatment opioid is typically administered prior to the administration of midazolam before an endotracheal intubation, and that additional sedative and analgesic drugs are typically administered later during the procedure)).

Defendants take positions contrary to known science about the effects of midazolam and its mechanism of action. First, the parties dispute the effects of midazolam. Defendants contend that midazolam alone can be used as a general anesthetic, and even go so far as to suggest that midazolam is comparably effective to known "complete anesthetics" such as thiopental, propofol, and isoflurane. Defs. Br. at 10 (citing DSUMF ¶¶ 51–52). But there is no known level at which benzodiazepines, including midazolam, make patients unaware and insensate to noxious stimuli such as surgery. Pl.'s Resp. SUMF ¶¶ 51, 52, 55, 56. Defendants' own expert, Dr. Antognini, stated that he "would feel very uncomfortable using 500 milligrams of midazolam by itself for heart surgery, for brain surgery, for a long orthopedic case . . . if I said, oh, I'm going to use 500 milligrams of midazolam for the sole anesthetic for this long procedure, I would lose my license." Pl.'s Resp. SUMF ¶ 61 (quoting Def. Ex. 13, Antognini Dep. 130:8-16).

Accordingly, midazolam has been clinically approved for use only to *induce* general anesthesia, not to *maintain* general anesthesia. Pl.'s Resp. SUMF ¶¶ 33, 41, 43, 51, 52, 55 (citing Pl. Ex. 2, Midazolam Package Insert at 13 ("Midazolam injection is indicated intravenously for *induction* of general anesthesia, *before administration of other anesthetic agents*.") (emphases added)). "Induction" refers to the initial administration of drugs that start the anesthetic; it does not refer to the later stage during which a surgical or other severe stimulation occurs. Pl.'s Resp. SUMF ¶¶ 31, 39, 40. Even the induction of anesthesia usually involves the administration of several drugs—often a combination of a benzodiazepine, narcotic, and propofol. Pl.'s Resp. SUMF ¶¶ 33, 45. Induction is virtually never accomplished with only one drug, and never with a benzodiazepine as the solo drug. Pl.'s Resp. SUMF ¶¶ 33, 45, 55, 56, 57, 58, 74, 75.

Second, due to its mechanism of action, midazolam cannot achieve a state of general anesthesia no matter how much of it is administered. Benzodiazepines such as midazolam work by inhibiting brain activity, which is regulated by the action of neurotransmitters. Pl.'s Resp. SUMF ¶ 37. The main inhibitory neurotransmitter in the brain is GABA (an abbreviation for gamma-aminobutyric acid), which acts on GABA receptors present on brain neurons. *Id.* When GABA binds to its GABA receptor, the brain neurons are inhibited. *Id.* Benzodiazepines do not increase the synthesis of GABA, but rather only enhance the effect of the existing GABA at the GABA receptor. *Id.* Benzodiazepines work by inhibiting brain activity, but can do so only by working with GABA that is already present in the brain. *Id.* When all the GABA receptors in the brain are saturated, higher doses of midazolam do not produce any greater effects. *Id.* This results in a "ceiling effect," i.e., the point at which greater midazolam doses do not produce a greater pharmacological effect. *Id.*

Defendants reduce Plaintiff's objections to midazolam to "two reasons," both of which Defendants claim are "unsupported by the record." Defs. Br. at 11. Contrary to this assertion, Plaintiff's position is amply supported by record evidence, not only for the "two reasons" Defendants chose to address, but also based on numerous other factual disputes relevant to answering this question. *See* Pl.'s Resp. SUMF ¶¶ 12–23, 64–70 (disputing the fundamentals of consciousness and anesthesia); 24–26 (disputing the fundamentals of pain and analgesia); 27–28, 31, 33, 35, 37, 40–62, 94–99 (disputing the uses and effects of midazolam); 71–93 (disputes regarding pulmonary edema); 100–06 (disputes regarding the ceiling effect of midazolam). Plaintiff's position is supported not only by information and testimony from Plaintiff's experts, but also by information and testimony from Defendants' experts.

As for the two factual disputes Defendants choose to engage, Defendants cannot show their position is indisputably correct. First, Defendants argue that "Plaintiff cannot prove that 500 mg of midazolam is ineffective due to a ceiling effect" because "there is no known dose at which midazolam reaches a ceiling effect." Defs.' Br. at 12 (citing DSUMF ¶¶ 103–06). Not knowing that exact dose, however, does not mean that midazolam has no ceiling effect. Midazolam's ceiling effect is described by authors of numerous clinical studies and reviews. Pl.'s Resp. SUMF ¶ 60. Even Defendants' own expert, Dr. Patel, agrees that midazolam has a ceiling effect; like Dr. Stevens, Dr. Patel is "not aware at what dose that [ceiling effect] occurs." *Id.* (quoting Pl. Ex. 3, Patel Dep. at 120:22–123:1).

Irrespective of the precise dosage, the ceiling effect of midazolam is certainly reached before the 500 milligrams called for by the Protocol. In at least one study, "the ceiling dose was approached (although not reached) during a study of midazolam with administration of as little as 0.4 mg/kg of midazolam, (i.e. 40 mg in a 100 kg person), a dose well below that proposed in the Tennessee protocol." PSAMF ¶ 16 (quoting Def. Ex. 15, Van Norman Rep. at 22 (citing Gamble JAS, Kawar P, Dundee JW, Moore J, Briggs LP. *Evaluation of midazolam as an intravenous induction agent.* Anaesthesia 1981; 36:868–73)). In rats, even the maximal dose of midazolam would never be high enough to produce general anesthesia. Pl.'s Resp. SUMF ¶ 43 (citing Inagaki Y, Sumikawa K, Yoshiya I., *Anesthetic interaction between midazolam and halothane in humans.* Anesth. Analg. 1993; 76:613-7)).

More importantly, the ceiling effect of midazolam means that it cannot achieve general anesthesia no matter what dose is administered. PSAMF ¶ 17 (citing Def. Ex. 15, Van Norman Rep. at 22 ("[A]lthough the dose of midazolam proposed in the Tennessee protocol is high, it exceeds that of midazolam's maximum clinical effect, and does not increase the likelihood of

unconsciousness compared to doses that have previously been shown to not provide unconsciousness during severely painful or other severely noxious stimuli."); Def. Ex. 11, Stevens Rep. at 23 ("[M]idazolam has a ceiling effect, which occurs before anesthesia is obtained.")).

Second, Defendants argue that "[b]ecause Plaintiff's expert cannot acknowledge whether *any* drug or a combination of drugs has ever, or can ever, put a person in a deep enough state of unconsciousness to avoid perceiving severe pain, Plaintiff cannot prove that an injection of 500 mg of midazolam is less effective at causing this state of unconsciousness than any other anesthetic technique." Defs.' Br. at 13–14. This essentially amounts to an attack on the credibility of Plaintiff's expert, Dr. Van Norman, while avoiding the substance of the dispute. A memorandum in support of a Rule 56 motion is not the proper vehicle for an attack on an expert's credibility. *Auto. Experts, Inc.*, 2021 WL 2260058, at *17 ("[T]he Court cannot determine at [the summary judgment] stage whether or not a particular expert is more credible or accurate than another expert."). And even if it was, Defendants' attack is belied by the record. Dr. Van Norman has repeatedly and consistently defined the term "unconsciousness." Pl.'s Resp. SUMF ¶ 65. Moreover, Defendants' own expert anesthesiologist, Dr. Antognini, *agrees* with Dr. Van Norman on the points for which Defendants criticize her. Pl.'s Resp. SUMF ¶¶ 68, 69, 70 (citing Def. Ex. 13, Antognini Dep. 243:21–244:7 (describing the question of whether "[a] person was really unconscious" as "a philosophical dilemma because you cannot test that hypothesis")). Defendants' baseless attack on Dr. Van Norman's credibility serves as nothing other than a distraction from the parties' dispute as to whether midazolam can achieve a state of general anesthesia. That dispute remains unresolved and ripe for trial.

In addition to failing to render a prisoner insensate to the pain and suffering caused by vecuronium bromide and potassium chloride, the administration of midazolam itself is sure or very likely to cause severe pain via "flash" or acute pulmonary edema. Pl.'s Resp. SUMF ¶ 77. Symptoms of *acute* pulmonary edema—which is not the same as pulmonary edema—include cough, shortness of breath, air hunger, rapid breathing, sweating, falling levels of oxygen in the bloodstream, frothy sputum (sometimes pink or red due to blood) or fluid in the airway, and acute excruciating sensation of doom and/or drowning. Pl.'s Resp. SUMF ¶¶ 84, 85. Most autopsies of prisoners executed by lethal injection show evidence of flash or acute pulmonary edema. Pl.'s Resp. SUMF ¶ 82. Acute pulmonary edema requires a beating heart and, thus, does not occur postmortem. Pl.'s Resp. SUMF ¶ 77.

2. The Administration of Vecuronium Bromide Under the Protocol Is Sure or Very Likely to Cause Severe Pain.

Defendants do not dispute that vecuronium bromide causes sensations of paralysis, drowning, and suffocation as a matter of fact, but instead argue that this pain and suffering is constitutionally acceptable as a matter of law. They contend that Plaintiff's allegations regarding vecuronium "do not show an Eighth Amendment violation" because "Plaintiff's allegations of paralysis are not allegations of pain," and "Plaintiff's allegations of suffocation and the pain associated with it are not legally cognizable under the Eighth Amendment." Defs.' Br. at 15 (citing *King v. Parker*, 467 F. Supp. 3d 569, 573 (M.D. Tenn. 2020)). They argue further that "midazolam will prevent the inmate from perceiving any pain resulting from the vecuronium bromide," *id.*at 16, ignoring voluminous record evidence to the contrary. As discussed in Section I.A.1, *supra*, Plaintiff disputes that midazolam can render a person insensate to the pain resulting from vecuronium bromide. Plaintiff maintains that a state of general anesthesia is needed to prevent a person from experiencing this severe pain and suffering—and midazolam cannot

produce and maintain a state of general anesthesia. *See* Pl.'s Resp. SUMF ¶¶ 12–23, 64–70, 24–26, 27–28, 31, 33, 35, 37, 40–62, 94–99, 71–93, 100–06.

This Court denied Defendants' motion for judgment on the pleadings precisely because the question of whether midazolam "'protect[s] against the serious pain of the second and third drugs' is 'already well-worn ground,' *but it has never been answered as a matter of law*." *King*, 467 F. Supp. 3d at 574 (emphasis added) (quoting *Campbell v. Kasich*, 881 F.3d 447, 449 (6th Cir. 2018)). Because this question cannot be answered as a matter of law and the record contains genuine disputes as to material facts, it is not appropriate for summary judgment.

3. The Administration of Potassium Chloride Under the Protocol Is Sure or Very Likely to Cause Severe Pain.

Defendants appear not to dispute that the administration of potassium chloride under the Protocol causes severe pain. Instead, they argue that Plaintiff's proposed two-drug alternative method of execution "leads naturally to the conclusion that, when used in combination, midazolam would prevent Plaintiff from feeling the pain resulting from potassium chloride." Defs.' Br. at 16. This is fallacy. Plaintiff's proposed two-drug alternative would *reduce* significantly the substantial risk of severe pain posed by the current three-drug Protocol; Plaintiff does not contend it would wholly prevent it. *See Bucklew v. Precythe*, 139 S. Ct. 1112, 1126 (2019) (explaining that whether a method of execution causes a "constitutionally permissible" degree of pain "is a *necessarily* comparative exercise") (citing *Glossip*, 576 U.S. at 876–79; *Baze v. Rees*, 553 U.S. 35, 61 (2008)). The two-drug protocol would reduce that risk not because midazolam is an anesthetic, but rather because eliminating vecuronium bromide from the Protocol would eliminate the pain resulting from administration of that drug. As a matter of logic and common sense, it simply does not follow that removing the paralytic from the Protocol would cause midazolam to prevent the pain caused by potassium chloride.

Plaintiff agrees with Defendants that whether a prisoner executed pursuant to the Protocol will experience the severe pain caused by potassium chloride depends on the effectiveness of midazolam. Particularly given Defendants' concession that the intravenous injection of potassium chloride causes severe pain, this brings the parties back to their central dispute—whether midazolam can render a person insensate to the pain and suffering caused by the injection of the second and third drugs in the Protocol. *See supra* Sections I.A.1, I.A.2; Pl.'s Resp. SUMF ¶¶ 12–106.

B. The Protocol Has No Safeguards Sufficient to Protect Against the Substantial Risk of Improper Deviation or Maladministration.

The risk of maladministration or deviation from the Protocol is substantial. Far from "minor or isolated mishaps," the record reveals regular and significant deviations from the Protocol since it was adopted on July 5, 2018.

1. The Protocol Has No Safeguards Sufficient to Confirm Unconsciousness and the Inability to Perceive Pain.

Bearing in mind the concepts discussed in Section I.A, *supra*, Plaintiff disputes that "unresponsiveness to external stimuli indicates unconsciousness and an ability to feel pain." Defs.' Br. at 19. As Dr. Van Norman explains, unresponsiveness on its own does not necessarily indicate that a person is under general anesthesia or unable to feel pain; a person can have connected consciousness and be sensate, and yet be unable to respond and demonstrate that consciousness. PSAMF ¶ 3; Pl.'s Resp. SUMF ¶ 132; *see also supra* Section I.A.

There is no way to monitor "consciousness," which does not have a precise medical definition. Pl.'s Resp. SUMF ¶¶ 127–28. The most a non-physician can do is monitor *responsiveness*; even the manual for training non-physicians to assess "consciousness" referenced by Defendants and their expert, Dr. Antognini, assesses levels of responsiveness, not consciousness. Pl.'s Resp. SUMF ¶ 128 (citing Def. Ex. 9, Antognini Rep. at 28 (citing

American College of Emergency Physicians, *First Aid Manual* at 48, 112)). In a hospital setting, medical professionals typically use machines to monitor indicators of patient responsiveness.[2] Pl.'s Resp. SUMF ¶ 127. The "consciousness checks" required by the Protocol have all been scientifically proven in clinical and research studies to fail to detect awareness. Pl.'s Resp. SUMF ¶ 132. Accordingly, the Warden, who performs these consciousness checks, cannot tell if a prisoner is aware or sensate using these methods. *Id.*

The inadequacy of the consciousness checks is only exacerbated by Warden Mays' lack of understanding of how a consciousness check is intended to work. The Warden appears not to know how to tell a conscious person from an unconscious one. Pl.'s Resp. SUMF ¶ 124. He would not be able to tell the difference between a sedated prisoner and one under surgical anesthesia, and he would not be able to tell if someone were unresponsive but still sensate to pain. *Id.* He further confuses "unresponsiveness" with "unconsciousness," and does not know there are various planes of anesthesia. *Id.* When asked how he can be sure he is correctly determining a prisoner's consciousness, the Warden responded that "[n]othing is sure, you just know and go with it." PSAMF ¶ 11.

Troublingly, the Warden would not necessarily call off an execution even if a prisoner demonstrated clear signs of responsiveness, like opening his eyes or yelling "Help." Pl.'s Resp. SUMF ¶ 124 (citing Def. Ex. 20, Mays Dep. 245:18–246:6). The Warden explained that if a prisoner showed signs of consciousness even just one minute after he performed the consciousness check, it would be "too late" to stop the administration of the second and third

[2] Plaintiff's expert on medical-aid-in-dying procedures, Dr. Charles Blanke, explained that he and his peers no longer use "pinches" or a "sternal rub" because "it seemed to be cruel to the family as well as unnecessary . . . the [medical-aid-in-dying] drugs, of course, are known to cause insensate conditions." Def. Ex. 21, Blanke Dep. at 71:22–24, 74:5–6.

drugs. *Id*. (quoting Def. Ex. 20, Mays Dep. at 241:4). He explained further that he would "not necessarily" want to know whether a prisoner could feel pain from the administration of the second two drugs—even though that is supposedly the purpose of performing the consciousness check—and, more generally, that he is not concerned with how much pain a prisoner feels during an execution. PSAMF ¶ 12 (citing Def. Ex. 20, Mays Dep. at 311:24–312:16). The Warden's testimony thus evidences that the Protocol does not contain safeguards sufficient to confirm unconsciousness and the inability to perceive pain.

2. The Protocol Has No Safeguards Sufficient to Ensure Proper Administration of the Lethal Injection Drugs.

As an initial matter, Defendants grossly mischaracterize Plaintiff's expert's testimony on physician participation in lethal injection procedures. Far from "conceding" that lethal injections can be successfully accomplished by laypeople, Dr. Van Norman explained at length why she, along with the American Society of Anesthesiologists, the American Medical Association, and the American Board of Anesthesia, believes that "physicians shouldn't participate in lethal injection." PSAMF ¶ 58 (quoting Def. Ex. 10, Van Norman Dep. at 68:20–23). Dr. Van Norman's testimony is that "[p]risoners are not patients, and executions are not medical procedures. And so, using medical skills to participate in nonmedical procedures is unethical." *Id.* (quoting Def. Ex. 10, Van Norman Dep. at 69:14–17).

Leaving aside the ethics of physician participation in executions, the record demonstrates that the Execution Team is not properly administering the lethal injection drugs. The training and practice sessions are inadequate to prepare the team for executions, and they have not successfully followed the Protocol in the two executions carried out under it to date.

a. The Protocol does not ensure that the drugs will be correctly administered, and they are not in fact correctly administered.

Plaintiff does not dispute that the Protocol says what it says.[3] This notwithstanding, Plaintiff disputes that the Execution Team is prepared to administer the compounded midazolam and potassium chloride. Although a layperson theoretically can learn to handle and administer compounded sterile preparations, that requires extensive training and supervision from a pharmacist. Pl.'s Resp. SUMF ¶ 152. Plaintiff's expert, Dr. Michaela Almgren, opines that the training required is:

> [A] really long list, but it includes things like how you reconstitute medications; how do you know if you have a correct volume; how do you equilibrate pressure within the vial and . . . the solution when you are . . . pulling up a certain amount or reconstituting. . . . How do you assure that the medication will not be contaminated? How do you handle the syringe and needle, you know? How do you hold it? I mean, they seem like simple things, but they are not. You know, what our natural instincts naturally tell you about how we handle things is very different when we handle sterile preparations. You know, the way you even attach the needle to the hub, there is a technique for that. The way you inject. What can you hold when you are pushing the needle into an IV bag. What can you touch when you are handling the vial? . . . [L]ike I said, it sounds simple to a lay person because it seems like a no-brainer, but it is not.

PSAMF ¶ 58 (quoting Def. Ex. 29, Almgren Dep. at 153:10–154:7). The Tennessee Department of Correction's ("TDOC") training practices, by contrast, are woefully inadequate to train members of the Execution Team to handle and administer sterile compounds. Pl.'s Resp. SUMF ¶ 152.

Though the Protocol requires the LIC to be prepared in accordance with the directions of the Pharmacy, this requirement is not followed in practice. The Drug Procurer "lacks the training and professional qualifications necessary to understand how to properly store and handles LICs," and "lacks attention to detail." PSAMF ¶ 22 (quoting Pl. Ex. 5, Almgren Rep. at 5). For example,

[3] Of the whopping 353 total "undisputed facts" Defendants offer in support of their motion, 37 are simply copy-and-pasted sections of the Protocol. An additional 77 "facts" are unsupported by anything other than Defendants' own expert reports.

the Drug Procurer does not always make accurate entries to the drug inventory log.[4] PSAMF ¶ 23. For his part, the Executioner "does not follow USP Chapter 797 guidance on BUD assignment for all three of the LICs," "does not have any special or advanced aseptic technique training," and "has not been adequately trained to properly prepare the LICs." PSAMF ¶ 24 (quoting Pl. Ex. 5, Almgren Rep. at 5). Specifically, the Executioner uses the same size syringes for all three drugs, even though the Pharmacy's instructions specify that the potassium chloride is to be drawn up in a different size syringe than the midazolam. Pl.'s Resp. SUMF ¶ 261. While preparing midazolam, the Executioner violates the Pharmacy's instructions, aseptic technique, and USP 797 requirements by wiping "the nipple of the needle, the nipple of the trench, and the end of the needle" with "alcoholic wipes." *Id.* (quoting Def. Ex. 1, Executioner Dep. 159:15–160:6); *see also id.* (citing Pl. Ex. 5, Almgren Rep. at 7; Def. Ex. 29, Almgren Dep. 166:8–13 ("[I]f I saw any of my students or pharmacy technicians do that, they would fail the course or be fired. It's step one of learning proper aseptic technique. You do not touch sites.")). Furthermore, the Executioner is not performing a proper visual inspection of the prepared syringes and is not aware that LIC may fall out of solution. Pl.'s Resp. SUMF ¶ 267 (quoting Def. Ex. 1, Executioner Dep. 144:24–145:7 ("[T]he color of the drug is not a large focus of mine.")). The Executioner's failure to assess the LIC's color and perform a proper visual inspection required by USP Chapter 790 is concerning because doing so is necessary to ensure that LIC is fully

[4] During Dr. Almgren's deposition, counsel for Defendants declined Dr. Almgren's repeated offers to discuss additional specific instances of the Execution Team's failures to properly handle and administer the compounded lethal injection drugs. *See* Def. Ex. 29, Almgren Dep. at 144:20–24 ("We can pull up the deposition . . . , and I can point out what areas concerned me in the sense that he—I felt that he did not have the qualifications for this position."); *id.* at 145:6–8 ("There were so many instances . . . we can go back and I'll be happy to do that."); *id.* at 146:10–11 ("I will be happy to go—can we open the deposition, and I will point them out."); *id.* at 148:1–4 ("Yes, we can go back and look at the testimony and I'll point out a handful of others."). Dr. Almgren can testify about these failures in detail at trial.

dissolved and safe to use. *Id.* (citing Pl. Ex. 5, Almgren Report ¶ 22; Def. Ex. 29, Almgren Dep. 172:22–173:7). The Executioner does not know how he learned to prepare the vecuronium bromide. Pl.'s Resp. SUMF ¶ 261.

Moreover, the instructions themselves are not sufficient to ensure correct preparation and administration of compounded midazolam and potassium chloride. Pl.'s Resp. SUMF ¶ 275. The provision of multiple, potentially conflicting instructions with each delivery of LIC from the Pharmacy raises additional concerns. *Id.* Because the Executioner is not performing a proper visual inspection of the prepared syringes, there is no way to know whether any of the LIC has ever fallen out of solution prior to administration. Pl.'s Resp. SUMF ¶ 274. This check is particularly important because the initial batch of potassium chloride that the Pharmacy compounded for TDOC did in fact fall out of solution. *Id.*

The Pharmacy's records demonstrate that the midazolam and potassium chloride are not compounded in a manner consistent with USP guidelines. Active Pharmaceutical Ingredients ("API") are used to compound medications. USP monographs for a particular API set forth quality requirements and the tests that must be used to verify that each quality requirement is met. PSAMF ¶ 25. These quality standards must be followed for the drug to be labelled USP grade. PSAMF ¶ 26. Other possible chemical grades include EP grade, meaning the medication complies with the European Pharmacopeia quality requirements, and BP grade, meaning the medication complies with the British Pharmacopeia grade. PSAMF ¶ 27. The two batches of midazolam API that the Pharmacy purchased to fill TDOC's orders were not tested pursuant to the USP, but instead were subjected only to EP and BP standards. PSAMF ¶ 28 (citing Pl. Ex. 22, Defts. Supp. Resp. 11.18.2021 000003, 000005). Because the quality standards set by the USP for midazolam are different than those set by the EP and BP, the two batches of API cannot

be used to compound USP grade midazolam without further analysis using USP quality standards and methodologies. PSAMF ¶ 29.

USP also sets standards for testing compounded preparations to ensure that standards for potency, impurities, particulates, endotoxins, pH, and sterility are met—but nearly every preparation the Pharmacy compounded for TDOC failed at least one test and/or was not subjected to all the tests required by the USP. PSAMF ¶¶ 30, 31. If a compounded preparation is not subject to all the required tests or fails any of the required tests, it should not be used because the quality may be subpar and its pharmacological activity is unpredictable. PSAMF ¶ 30. Out of all the batches of potassium chloride and midazolam that the Pharmacy has compounded for TDOC, only a single batch of midazolam was tested for endotoxins. PSAMF ¶ 32. Two of the three of the potassium chloride preparations compounded by the Pharmacy and subjected to potency testing failed. PSAMF ¶ 33 (citing Pl. Ex. 8, Potassium Chloride Potency Results). A batch of midazolam also failed the USP required potency test. PSAMF ¶ 34 (citing Pl. Ex. 9, Midazolam Potency Result).

Records from the Pharmacy further demonstrate that the midazolam that TDOC used to execute Donnie Johnson on May 16, 2019, was expired. Pl.'s Resp. SUMF ¶¶ 150, 180, 182, 277. The midazolam that TDOC used during Donnie Johnson's execution was compounded on April 24, 2019. Pl.'s Resp. SUMF ¶ 150. According to the Pharmacy's records, this midazolam expired on May 1, 2019, and TDOC did not have any unexpired midazolam in its possession from May 1, 2019, to July 15, 2019. *Id.*

The potassium chloride and vecuronium bromide used to execute Donnie Johnson were also expired. Pl.'s Resp. SUMF ¶ 150. Once a medication is drawn up into a syringe in a non-sterile environment, such as the Execution Chamber, it is considered an "Immediate-Use

Compounded Sterile Product" and must be used within one hour. *Id.* (quoting Pl. Ex. 21, USP/NF 2021 Issue 2, Chapter 797, 7). USP dictates that, after one hour, these medications are considered expired and must be discarded.[5] *Id.* Although this rule applies to all three drugs called for by the Protocol, the Executioner erroneously applies this rule only to the midazolam, and not also to the vecuronium bromide and potassium chloride. *Id.* (citing Def. Ex. 1, Executioner Dep. at 176:23–177:22).

The vecuronium bromide used in Donnie Johnson's execution was prepared at 17:24 but not administered until 19:26. *Id.* (citing Def. Ex. 19, 5/16/19 Lethal Injection Chemical Administration Record, Def. Int. Discl. 000827; 5/16/19 Chemical Preparation Time Sheet, Def. Int. Discl. 000831). The potassium chloride was prepared at 17:29 but not administered until 19:28. *Id.* Both the potassium chloride and vecuronium bromide were administered approximately two hours after being drawn into syringes, and therefore were expired under USP 797 and should not have been used. *Id.* (citing Pl. Ex. 21, USP/NF 2021 Issue 2, Chapter 797, 7).

The vecuronium bromide and potassium chloride TDOC used to execute Billy Ray Irick were also expired. *Id.* The vecuronium bromide used in Billy Ray Irick's execution was prepared at 17:24 but not administered until 19:35. *Id.* (citing Def. Ex. 18, 8/9/18 Lethal Injection Chemical Administration Record, Def. Int. Discl. 000963; 8/9/18 Chemical Preparation Time Sheet, Def. Int. Discl. 000963). The potassium chloride was prepared at 17:28 but not administered until 19:38. *Id.* Both drugs were administered more than two hours after being

[5] Contrary to Defendants' assertion, Plaintiff's expert has not "acknowledged there is no identifiable harm to an inmate who receives an injection of vecuronium bromide drawn into a syringe two hours before administration of lethal injection chemicals." Defs.' Br. at 22. Dr. Almgren testified there is a risk of contamination, though she could not specify the nature of the contamination (microbial, particulate, chemical or other) without further information about the area where the syringes were prepared. Pl.'s Resp. SUMF ¶ 253 (citing Def. Ex. 29, Almgren Dep. 158:12–162:20).

drawn into syringes, and, therefore, were expired under USP 797 and should not have been used. *Id.* (citing Pl. Ex. 21, USP/NF 2021 Issue 2, Chapter 797, 7).

b. The training required by the Protocol is not sufficient.

Plaintiff does not dispute that the Protocol requires IV training through the Tennessee Correction Academy, but Plaintiff disputes that the correctional staff has in fact received training from qualified medical professionals and that the training was conducted by the Tennessee Correction Academy. Pl.'s Resp. SUMF ¶ 147. The IV Team Members attended a single eight-hour IV training taught by an "IV therapy specialist" who was unaffiliated with the Tennessee Correction Academy. Pl.'s Resp. SUMF ¶ 159. None of the IV Team Members have any other relevant medical training outside of what is provided by TDOC. *Id.* The Executioner received training through a medical college that "had IV therapy training," but that was twenty years ago, and he does not know how the instructor was qualified. Pl.'s Resp. SUMF ¶ 154 (quoting Def. Ex. 1, Executioner Dep. 72:6–13). The Executioner and IV Team Members do not receive annual "update training." Pl.'s Resp. SUMF ¶¶ 154–55, 159. The Execution Team has trained only for IV insertion in the back of the hand, not for IV insertion in the forearm, wrist, top of the foot, ankle, or lower leg. Pl.'s Resp. SUMF ¶ 178.

The annual "class" consists of the Warden reading the Protocol out loud from start to finish with nothing more. Pl.'s Resp. SUMF ¶ 141. The IV team members and EMTs do not read the Protocol outside of the trainings and are not allowed to remove copies of the Protocol from the prison. Pl.'s Resp. SUMF ¶ 139. These members of the Execution Team are not provided with copies of the Protocol until they attend trainings. *Id.* Although the Protocol requires practice sessions, records demonstrate that the Execution Team does not take these practices seriously. The Warden and Execution Team referred to these sessions as "band practice" up until their legal

department advised against it. PSAMF ¶ 18 (citing Def. Ex. 20, Mays Dep. at 287:25–288:12). The logs documenting these practice sessions list fictitious prisoner names including "Wild Bill," "Con Demned," "Annie Oakley," "Doc Holliday," "Tom Thumb," "John Henry," and "Billy the Kid." PSAMF ¶ 19 (citing Def. Ex. 20, Mays Dep. at 285:8–287:12). Plaintiff disputes the Warden's view that use of these names "most definitely" indicates the Execution Team was taking the practices seriously. PSAMF ¶ 20 (quoting Def. Ex. 20, Mays Dep. at 285:8–287:12).

c. The Execution Team has not successfully applied the Protocol.

Tennessee has carried out only two executions under this Protocol: Billy Ray Irick on August 9, 2018, and Donnie Johnson on May 16, 2019. Pl.'s Resp. SUMF ¶¶ 179, 181. Both executions expose flaws in the Protocol and further support Plaintiff's allegations.

On the day of an execution, the Protocol calls for the preparation of two complete sets of LIC, each of which comprises nine syringes containing the LIC and saline. One set is color-coded red, and the other set is color-coded blue. Ex. 6, Protocol at 39. The purpose of the blue set is to provide "back up" in case there is any problem with the red set of syringes. *Id.* at 45.

The back-up or "blue" set of midazolam syringes was never prepared for Mr. Irick's execution. Pl.'s Resp. SUMF ¶ 259. The Executioner claims to have prepared a back-up set of midazolam syringes for use if needed—but IV Team Member 2, who documented the Executioner's preparation of the drugs used to execute Mr. Irick, testified that the Executioner did *not* prepare the back-up set of midazolam syringes. *Id.* (citing Def. Ex. 1, Executioner Dep. 276:10–15; Def. Ex. 27, IV Team Member 2 Dep. 82:24–83:7, 83:14–21). The Chemical Preparation Time Sheet that IV Team Member 2 completed during the execution demonstrates that the back-up midazolam syringes were not prepared. *Id.* (citing Def. Ex. 18, 8/9/18 Chemical Preparation Time Sheet, Def. Int. Discl. 000966). IV Team Member 3 also testified that the back-

up set of midazolam syringes was *not* prepared, and that it was the Executioner's decision not to prepare it. *Id.* (citing Def. Ex. 28, IV Team Member 3 Dep. 68:10–16, 69:8–13).

Media witnesses recounted that, following the consciousness check, Mr. Irick appeared "to react physically to the second drug. He jolted and produced what sounded like a cough or choking noise. He moved his head slightly and appeared to briefly strain his forearms against the restraints." Pl.'s Resp. SUMF ¶ 182 (quoting Steven Hale, *The execution of Billy Ray Irick,* Nashville Scene, Aug 10, 2018, https://www.nashvillescene.com/news/pithinthewind/the-execution-of-billy-ray-irick/article_ef6c718d-bc1c-550f-926c-e68eb7fd9891.html). According to Dr. David Lubarsky, an anesthesiologist who attended the execution, Mr. Irick was not "in the plane of surgical anesthesia during his execution" and therefore was "not protected from the subsequent torturous effects of the lethal injection process." *Id.* (quoting Pl. Ex. 6, Lubarsky Decl. ¶ 3). Dr. Van Norman and Dr. Antognini disagree whether these were voluntary movements that indicated Mr. Irick was sensate to the onset of paralysis, suffocation, and drowning. *See* Def. Ex. 15, Van Norman Report 34; Def. Ex. 9, Antognini Report ¶ 57.

As discussed in Section I.B.2.a, *supra*, all three drugs used in Mr. Johnson's execution were expired. Pl.'s Resp. SUMF ¶¶ 150, 180, 182, 277. According to a media witness, Mr. Johnson opened his mouth wide, made a gurgling snore sound for three minutes and then a sharper, high-pitched gasp. Pl.'s Resp. SUMF ¶ 180 (citing Adam Tamburin & Katherine Burgess, *'No More Dying There': Death Row Inmate Don Johnson Sang Hymns as Lethal Drugs Took Effect,* Commercial Appeal, May 17, 2019, https://www.commercialappeal.com/story/news/2019/05/17/donnie-edward-johnson-tennessee-execution-lethal-injection/3685417002/). These movements were "active efforts to breathe against a closed upper airway and consistent with both chest-abdominal paradox, and voluntary movements in a sensate inmate feeling the

onset of paralysis, suffocation and drowning during the development of [acute] pulmonary edema." *Id.* (quoting Def. Ex. 15, Van Norman Report 34).

3. The Protocol Has No Safeguards Sufficient to Ensure the Preparation of a Contingency Set of Lethal Injection Drugs.

Despite the record evidence, Defendants contend the back-up set of midazolam syringes was prepared for Mr. Irick's execution. *See* Defs.' Br. at 28 (citing DSUMF ¶¶ 181–82). They nevertheless characterize this fact as "immaterial" for three reasons, none of which hold water.

First, Defendants argue that "the execution of Irick proceeded without complications." *Id.* Not so. As described in Section I.B.2.c, *supra*, media witnesses recounted that, following the consciousness check, Mr. Irick reacted to the administration of the drugs in ways that suggested he was not in the plane of general anesthesia during his execution and thus not protected from the severe pain and suffering resulting from the process. Pl.'s Resp. SUMF ¶ 182.

Second, Defendants argue that failure to prepare a back-up set of midazolam syringes has no "causal connection to an increased risk of severe pain." Defs.' Br. at 28. It is unclear how Defendants' citation to *Cooey v. Strickland*, 589 F.3d 210, 223–24 (6th Cir. 2009) supports their argument. The facts of *Cooey* involved, among other things, the addition of a back-up set of syringes "to be on hand in case the initial dosage does not produce death."[6] *Cooey*, 589 F.3d at 219. But, unlike here, the plaintiff in *Cooey* did not allege that Ohio's execution team had failed to prepare that back-up set of syringes, thereby causing actual harm to a prisoner. Plaintiff's challenge here is not "based on speculative injuries and the possibility of negligent administration," *id.* at 225, but rather on actual injury and the reality that the Protocol was maladministered during at least one of the two executions conducted thus far.

[6] The protocol at issue in *Cooey* also provided for a two-drug Protocol via intramuscular injection, to be used as a backup if needed to the primary one-drug intravenous lethal injection. Nothing even remotely similar to that back up two-drug intramuscular protocol is at issue here.

Third, Defendants argue that both sets of syringes were prepared for Donnie Johnson's execution. Defs.' Br. at 28. That may be, but given the team's failure to prepare both sets for the only other execution under this Protocol, Defendants cannot credibly say that a fifty percent failure rate is merely an "isolated" incident. *Id.* Considering the numerous other deviations, failures, and inadequacies discussed above, it is unlikely the team's failure to prepare the back-up midazolam syringes during Mr. Irick's execution was merely a one-time fluke.

4. The Protocol Has No Safeguards Sufficient to Ensure Proper Preparation, Transportation, and Storage of the Lethal Injection Drugs.

a. The drugs are not properly prepared.

Plaintiff disputes that the commercially manufactured vecuronium bromide is provided to Defendants by a source that uses only FDA-approved suppliers. Defendants' support for this statement pertains to a source that is no longer supplying TDOC with commercially manufactured vecuronium bromide. Pl.'s Resp. SUMF ¶ 196 (citing Pl. Ex. 7, Defs.' Supp. Resp. 02.14.2022 014139–41). The Pharmacy obtained vecuronium bromide from a new "vendor" in October 2021. Pl.'s Resp. SUMF ¶ 191 (citing Pl. Ex. 7, Defs.' Supp. Resp. 0214.2022 014139–41). As this information was not disclosed until well after fact discovery had closed, Plaintiff did not have the opportunity to ask the Drug Procurer or the Pharmacist whether the vecuronium bromide from the new source will be commercially manufactured or compounded.

Further, it is not entirely clear that Defendants are using compounded potassium chloride. IV Team Member 2 testified that TDOC used compounded midazolam but had "never" used compounded potassium chloride at an execution, and therefore had never used the written potassium chloride instructions at an execution. Pl.'s Resp. SUMF ¶ 191 (quoting Def. Ex. 27, IV Team Member 2 Dep. 95:1–17, 119:6–120:15). Even if the potassium chloride is in fact compounded, Plaintiff disputes that it and the midazolam are being properly compounded.

Contrary to the Protocol's requirement, the Pharmacist does not compound the drugs; in fact, the Pharmacist is not even present in the compounding room when the pharmacy technician compounds the midazolam and potassium chloride. Pl.'s Resp. SUMF ¶ 202. Although the Pharmacy is licensed for sterile compounding, the Pharmacist was previously disciplined and fined by a state board of pharmacy because he failed to ensure that the pharmacy technicians under his supervision possessed valid licenses. *Id.*

As also discussed *supra* Section I.B.2.a, the Pharmacy's records demonstrate that the midazolam and potassium chloride are not compounded in a manner consistent with USP guidelines. Specifically, the two batches of midazolam API purchased by the Pharmacy to fill TDOC's orders were not tested pursuant to the USP, and nearly every preparation the Pharmacy compounded for TDOC failed at least one test and/or was not subjected to all the tests required by the USP. PSAMF ¶ 31; Pl.'s Resp. SUMF ¶ 202. These preparations should not have been used due to the possibility of subpar quality and unpredictable pharmacological activity. PSAMF ¶ 30; Pl.'s Resp. SUMF ¶ 202. Plaintiff lacks sufficient information to respond to Defendants' assertion that the compounded drugs are placed into sterile, labelled vials. Defendants appear to possess copies of the labels that the Pharmacy affixed to the LIC compounded for TDOC. Pl.'s Resp. SUMF ¶¶ 207–08 (citing Pl. Ex. 7, Defts. Supp. Resp. 02.14.2022 009882–3). Despite Plaintiff's repeated requests over the past eight months, however, Defendants have failed to produce these labels.[7]

The third-party laboratory that tests the LIC compounded for TDOC has been issued a warning letter by the FDA due to negative findings in FDA inspections. Pl.'s Resp. SUMF ¶ 202.

[7] The failure to produce these documents was addressed in the Plaintiff's motion for additional discovery and sanctions. *See* Dkt. 180, PageID#5569 (Pl.'s Memo. in Support of Mot. for Add'l Discovery and Sanctions).

Although the Pharmacist is supposed to arrange testing with this third-party laboratory, the Pharmacist admitted that he shipped a batch of compounded LIC to TDOC on July 26, 2018, before receiving all the test results. Pl.'s Resp. SUMF ¶ 212 (citing Def. Ex. 35, Pharmacist Dep. 182:13–16, 183:5–9). As nearly none of the compounded LIC preparations were subject to each of the required tests, it appears the Pharmacy routinely ships compounded LIC to TDOC prior to receiving all the required testing results from the laboratory. *Id.*

b. The drugs are not properly transported.

Contrary to the Protocol, it appears that TDOC staff, on at least one occasion, has driven to the Pharmacy, which is located outside of Tennessee, and personally transported commercially manufactured LIC from the Pharmacy to Riverbend Maximum Security Institution ("RMSI"). Pl.'s Resp. SUMF ¶¶ 193, 197 (citing Pl. Ex. 7, Defs.' Supp. Resp. 02.14.2022 014115–20, Def. Ex. 50, Former Pharmacy Owner Dep. 28:19–25). Far from "confirm[ing] the drugs are still frozen," Defs.' Br. at 30, the Drug Procurer merely "assume[s]" that the LIC arrives at RMSI at "subzero temperatures" because it is shipped on dry ice. Pl.'s Resp. SUMF ¶ 216. Rather than checking the exact temperature of the LIC, he checks only whether the compounded LIC is "frozen" by looking to see whether the liquid in the vial "does not move." *Id.* (quoting Def. Ex. 3, Drug Procurer Dep. 88:16–23). The shipments of compounded LIC do not contain a temperature gauge in the box. *Id.* As Defendants' own expert opined, without assessing a temperature gauge, the Drug Procurer "wouldn't know . . . if it was within range during transport." *Id.* (quoting Pl. Ex. 3, Patel Dep. 80:14–23).

Although Warden Mays may take the LIC into the armory building upon receipt, he does not know which drugs are commercially manufactured versus compounded, and, contrary to the Protocol, he does not check the supply, concentration, and expiration dates. Pl.'s Resp. SUMF

¶ 194 (citing Def. Ex. 20 Mays Dep. at 176 ("I go into the area and I watch them be put away . . . I don't handle them . . . I just go with what the protocol says they are.")). The Drug Procurer's involvement in this process conflicts with the Protocol because the Drug Procurer is not a member of the Execution Team, and the Protocol says nothing about a Commissioner's "designee." Pl.'s Resp. SUMF ¶ 218.

c. The drugs are not properly stored.

The Protocol contains requirements that conflict directly with the instructions provided by the Pharmacy in its shipments of LIC, such that it is impossible to comply with both. Specifically, the Protocol requires that compounded LIC be "placed in an unmovable heavy gauge steel container with security grade locks," Pl.'s Resp. SUMF ¶ 213 (quoting Def. Ex. 6, Protocol at 35), but the directions from the Pharmacy require that the compounded midazolam be placed into the freezer, *id.* (citing Def. Ex. 37, Midazolam Instructions).

Presumably for this reason, the compounded drugs are not stored in an unmovable heavy gauge steel container as required by the Protocol.[8] Pl.'s Resp. SUMF ¶ 222. Instead, they are kept in a freezer that does not keep the compounded LIC at the proper temperature. Pl.'s Resp. SUMF ¶ 230. Because the thermometer is contained within the freezer itself, there is no way to assess the temperature unless the door is opened. *Id.* Therefore, TDOC has no way of knowing whether the freezer temperature fluctuates outside of the temperature range set by USP unless someone happens to open the freezer door at the time of the fluctuation. *Id.* The freezer is opened only in connection with an execution or periodic review. *Id.*

[8] It is unclear who made this decision to deviate from the Protocol. The Drug Procurer testified that the Commissioner and General Counsel told him to store the compounded LIC in a freezer instead of an unmovable heavy gauge steel container as required by the Protocol. Pl.'s Resp. SUMF ¶ 222 (citing Def. Ex. 3, Drug Procurer Dep. 98:3–18). The Commissioner denied having this conversation with the Drug Procurer. *Id.* (citing Def. Ex. 4, Parker Dep. 253:15–254:16).

The LIC inventory logs suggest the temperature of the freezer fluctuates outside of the 1- to 4-degrees Fahrenheit range. Pl.'s Resp. SUMF ¶ 231 (citing Def. Ex. 38, Ledger 7, 12, 13, 14). Additionally, several entries in the Ledger documenting the receipt of LIC do not include a recorded freezer temperature or an expiration date. Pl.'s Resp. SUMF ¶ 238 (citing Def. Ex. 38, Ledger 2, 10). At least one entry in the Ledger documenting the transfer of LIC from the freezer to the refrigerator does not record the refrigerator temperature. Pl.'s Resp. SUMF ¶ 250 (citing Def. Ex. 38, Ledger 13).

Before the depositions in this case, no one at TDOC was aware of the temperature ranges required by the Protocol because the Pharmacist and Former Pharmacy Owner never conveyed those ranges to anyone at TDOC. Pl.'s Resp. SUMF ¶ 229. The Drug Procurer recalled that someone told him to keep the freezer "a little freezing," and "believe[s]" that the refrigerated temperature range for LIC is "40 degrees—40-something degrees." *Id.* (quoting Def. Ex. 3, Drug Procurer 297:22–24; 121:1–5). To the Drug Procurer, frozen means "lower than 32 degrees," presumably meaning thirty-two degrees Fahrenheit. *Id.* (quoting Def. Ex 3, Drug Procurer 121:16–19). And "40-something degrees" Fahrenheit is around 25 to 55 degrees (Fahrenheit) warmer than -10 to -25 degrees Celsius.

Despite the "semi-annual" inventory requirement, the Drug Procurer admitted in his deposition that he and the Warden had not conducted an inventory for eleven months. Pl.'s Resp. SUMF ¶ 235 (citing Def. Ex. 3, Drug Procurer 64:21–65:12). Up until July 26, 2021, TDOC had LIC in its possession that had expired over three years prior.[9] Pl.'s Resp. SUMF ¶ 245. Even after inventorying the expired drugs, the Warden and Drug Procurer failed to dispose of them. *Id.*

[9] Defendants happened to conduct the overdue inventory between the first and second weeks of depositions in this case. *Compare* Def. Ex. 3, Drug Procurer Dep. (July 19, 2021) at 65:13–25 (all midazolam and potassium chloride in the RMSI inventory at that time was expired), *with* Def. Ex.

Further, Defendants' records show that expired execution drugs remained in storage at RMSI for over eighteen months. *Id.*; *see also* Pl.'s Resp. SUMF ¶ 243 (execution drugs were not disposed of for a "long time" after they expired (quoting Def. Ex. 20, Mays Dep. at 194:5–6)). Warden Mays evidently interprets the Protocol's "requirements" to mean that he can inventory drugs that are expired, but that "doesn't mean [he] has to dispose of them at that time." Pl.'s Resp. SUMF ¶ 235 (quoting Def. Ex. 20, Mays Dep. at 194:5–6,18–20; 196:3–4 ("We'll dispose of [the expired drugs] when we get to them.")). Multiple entries in the Ledger do not contain expiration dates. Pl.'s Resp. SUMF ¶ 245 (citing Def. Ex. 38, Inventory Ledger at 2, 10).

In sum, the record evidence shows that the "safeguards" in the Protocol fail to protect against the serious risks of maladministration. Defendants and members of the Execution Team regularly deviate from the Protocol's "requirements," often without even realizing they are doing so because they lack familiarity with the Protocol or do not understand the requirements contained therein. These deviations and improper practices are far from speculative; they have actually occurred, and the record indicates a high likelihood they will continue.

II. Alternative Methods of Execution Are Feasible and Readily Available.

Plaintiffs bringing Eighth Amendment challenges to their methods of execution must identify an alternative method that is "feasible, readily implemented, and in fact substantially reduces a substantial risk of severe pain." *Baze*, 553 U.S. at 52. "If a State refuses to adopt such an alternative in the face of these documented advantages, without a legitimate penological justification for adhering to its current method of execution, then a State's refusal to change its method can be viewed as 'cruel and unusual' under the Eighth Amendment." *Id.*

20, Mays Dep. (July 27, 2021) at 194:2–6 (drugs that had "been expired for a long time" were disposed of "yesterday").

The Constitution requires not that "executions must always be carried out painlessly," but rather that a chosen method of execution does not "'superadd' pain well beyond what's needed to effectuate a death sentence." *Bucklew*, 139 S. Ct. at 1127. "Distinguishing between constitutionally permissible and impermissible degrees of pain . . . is a necessarily comparative exercise." *Id.* at 1126. "[T]he Eighth Amendment is the supreme law of the land, and the comparative assessment it requires can't be controlled by the State's choice of which methods to authorize in its statutes." *Id.* at 1128.

A. Two-Drug Protocol of Midazolam and Potassium Chloride

Defendants first argue that execution by a two-drug protocol—that is, the injection of the exact same quantities of midazolam and potassium chloride currently required by the Protocol, without any paralytic or other third drug—is not viable because no other state has ever adopted or implemented it.[10] Defs.' Br. at 41. In support of this argument, Defendants rely on *Johnson*, an Eighth Circuit case that is not binding here. No court within the Sixth Circuit has adopted the rationale of *Johnson*, and the Sixth Circuit itself has opined, in a case decided after *Johnson*, that "a prisoner asserting a method-of-execution claim is free to look outside of already authorized methods as well." *In re Smith*, 806 F. App'x 462, 464 (6th Cir. 2020).

Next, Defendants argue that omitting vecuronium bromide from the current Protocol will not significantly reduce the substantial risk of severe pain because "the discomfort of suffocation is not unconstitutionally severe pain." Defs.' Br. at 42. The logic of this argument is not entirely clear. Even if the "discomfort" of suffocation did not constitute severe pain and suffering—which Plaintiff very much disputes, *see supra* Section I.A.2—removing that aspect of the

[10] This argument notwithstanding, counsel for Defendants previously described exactly the same two-drug protocol as "certainly something we'd do." Pl. Ex. 23, *Abdur'Rahman* Trial Tr., 7/17/2018, at 1938:4–8.

Protocol would nevertheless entirely eliminate, and thereby significantly reduce, the substantial risk of severe pain resulting from the Protocol as a whole. Moreover, the paralytic effect of vecuronium bromide cannot be considered "inconsequential," Defs.' Br. at 42, because it is simply not true as a factual matter that midazolam can prevent a prisoner from experiencing the pain resulting from administration of vecuronium bromide, *see supra* Section I.A.

For reasons already discussed, *see supra* Section I.A.1, Plaintiff disputes Defendants' "additional legitimate penological reasons" for refusing to adopt the proposed two-drug alternative. Spinal reflex movements can occur in both the presence and absence of consciousness. Pl.'s Resp. SUMF ¶ 18. That said, it is rare for a person to make any sounds under general anesthesia, and sounds such as those listed by Defendants may reveal that a person is not under general anesthesia. Pl.'s Resp. SUMF ¶¶ 21–22. To the extent "these movements may lead observers to the . . . conclusion that the inmate is conscious," that conclusion is unlikely to be "erroneous." Defs.' Br. at 42. To the contrary, removing the paralytic would allow the Execution Team to assess a prisoner's awareness more effectively. Pl.'s Resp. SUMF ¶ 132.

Most importantly, Defendants have no legitimate reason for using vecuronium bromide in the first place. Defendants state that "the purpose of the vecuronium bromide is to aid in putting the inmate to death by paralyzing the inmate and thereby stopping the inmate's breathing, hastening death," DSUMF ¶ 107, and that "TDOC has the legitimate concern that removing the paralytic would remove a component of the Protocol that hastens death," DSUMF ¶ 108. But TDOC has no reason to believe that a three-drug protocol would work faster than a two-drug protocol and has never consulted with any experts or doctors about what would happen if they removed the paralytic from the Protocol. Pl.'s Resp. SUMF ¶ 108. TDOC has never discussed removing the paralytic and "understands that the purpose of vecuronium . . . would probably be

debatable." *Id.* (quoting Def. Ex. 4, TDOC 30(b)(6) Dep. at 100:3–6, 205:6–10). Experts on both sides of this case agree that vecuronium bromide as used in the Protocol does not hasten death. Pl.'s Resp. SUMF ¶ 107 (citing Def. Ex. 13, Antognini Dep. 112:6–8 ("In most situations, vecuronium as administered in this Tennessee protocol and in other protocols similar to it will not hasten death."); Def. Ex. 15, Van Norman Rep. at 27 ("In fact, vecuronium bromide—indeed *any* paralytic agent—does not 'hasten death,' even slightly, in the setting of the Tennessee protocol."); Def. Ex. 11, Stevens Rep. at 16 ("Administration of vecuronium does not hasten death as the third drug, potassium chloride, is injected immediately after the vecuronium.")).

B. One-Drug Protocol of Pentobarbital

The crux of the parties' dispute regarding this alternative is the availability of pentobarbital. Defendants do not contest that pentobarbital is available "from various sources in the United States and abroad." Defs.' Br. at 44. Instead, they state repeatedly that pentobarbital is unavailable only *to them*. *See id.* at 43–44. The extent of Defendants' efforts to obtain pentobarbital is thus not only material, but indeed the critical fact necessary to deciding this dispute; pentobarbital cannot be considered "unavailable" to Defendants if they are not in fact trying to obtain it.[11] *See Glossip*, 576 U.S. at 878–79 (affirming the findings below because "the record shows that Oklahoma has been unable to procure [sodium thiopental and pentobarbital] despite a good-faith effort to do so").

[11] Defendants' "red herring" argument is puzzling at best. *See* Defs.' Br. at 44. Of course a one-drug pentobarbital protocol is "no longer the method of execution used in Tennessee"; if it were, it would hardly qualify as an "alternative" to itself. As for the "burden of proof," *id.*, Plaintiff must identify an alternative that is "feasible" and "readily implemented," meaning that "the State could carry it out relatively easily and reasonably quickly," *Bucklew*, 139 S. Ct. at 1129. In disputing the alleged unavailability of pentobarbital, Plaintiff is establishing that Tennessee has no "legitimate penological justification" for declining to adopt this method. *Baze*, 553 U.S. at 52.

The state court's four-year-old opinion in *Abdur'Rahman v. Parker*, 558 S.W.3d 606 (Tenn. 2018), does not support Defendants' alleged inability to obtain pentobarbital because that case was decided on a different record and in a different time. Moreover, since *Abdur'Rahman* was decided in 2018, "the federal government has made it easier to obtain pentobarbital from foreign manufacturers, . . . the federal government and states have used pentobarbital in executions, and . . . Tennessee may have a source of pentobarbital and be able to obtain it." *Middlebrooks v. Parker*, 15 F.4th 784, 791 (6th Cir. 2021). As the Sixth Circuit has recognized, "[t]hese additional facts were not considered in *Abdur'Rahman*" and, if in fact proven true, "are sufficient to infer that pentobarbital is available to Tennessee." *Id.*

The record establishes that Defendants and TDOC have not adequately searched for pentobarbital for it to be considered "unavailable." TDOC has long been aware that pentobarbital is available in Europe. PSAMF ¶ 35. At one point around July 2017, the United States Drug Enforcement Administration (DEA) met with the Former Pharmacy Owner and informed him that the pharmacy could not import pentobarbital as a general matter—but the Former Pharmacy Owner did not tell the DEA that he wished to import pentobarbital on behalf of the TDOC, nor did he ever inquire about the importation of pentobarbital specifically for use in executions. Pl.'s Resp. SUMF ¶ 346. He did not inquire at all about the importation of pentobarbital API. *Id.* The Pharmacist, who effectively replaced the Former Pharmacy Owner with respect to the issues in this litigation, was not aware until his deposition in this case that any discussion with the DEA ever occurred. *Id.*

This discussion between the Former Pharmacy Owner and DEA occurred prior to May 3, 2019, the date on which the Office of Legal Counsel for the United States Department of Justice issued an opinion ("OLC Memorandum") that the Food and Drug Administration (FDA) lacks

jurisdiction over drugs intended for use in lawful executions. *Id.*; PSAMF ¶ 36. Since the OLC Memorandum was issued, neither Defendants, TDOC, nor the pharmacy has attempted to obtain pentobarbital from a source outside of the United States.[12] Pl.'s Resp. SUMF ¶ 346.

Even prior to the issuance of the OLC Memorandum, TDOC's General Counsel, Ms. Debbie Inglis, never sought an exception to be allowed to import pentobarbital, and she knows of no attempts to obtain pentobarbital from overseas since 2017. PSAMF ¶ 37. At the time of her deposition in this case, she was not aware that the DEA has not intervened in any importation of execution drugs since the OLC Memorandum was issued. PSAMF ¶ 38 (citing Def. Ex. 2, Inglis Dep. at 162:21–24). Although TDOC is purportedly interested in obtaining pentobarbital from overseas so long as the importation complies with federal regulations, PSAMF ¶ 39, neither Ms. Inglis nor anyone else at TDOC has ever contacted the DEA or FDA about the OLC Memorandum, PSAMF ¶ 40.

As for domestic sources, the Drug Procurer asked the Pharmacist to ascertain the availability of pentobarbital most recently in March 2021. Pl.'s Resp. SUMF ¶ 348 (citing Def. Ex. 35, Pharmacist Dep. at 41:14–21; 38:12–25). In response to the Drug Procurer's five total requests since 2019, the Pharmacist has done nothing other than search a single database. *Id.* (citing Def. Ex. 35, Pharmacist Dep. at 41:22–42:4; 44:9–13; 50:4–8). The Pharmacist has not made any phone calls, has not emailed any other suppliers, has not researched any legal provisions that might apply to the manufacture or importation of pentobarbital, and has not talked with anyone about importing pentobarbital from overseas. *Id.*

[12] It does appear, however, that TDOC is obtaining its midazolam API from overseas. Pl.'s Resp. SUMF ¶ 351. Pharmacy experts for both sides agree, based on the use of certain European rather than American testing standards, that the midazolam API was likely obtained from a foreign source. *Id.* (citing Pl. Ex. 24, Almgren Supp. Rep. at 6; Pl. Ex. 3, Patel Dep. at 45:18–46:1; 48:10–19; 51:8–25).

Although the compounding Pharmacy has three total databases available to it when searching for drugs, the Pharmacist searched only one of those three for pentobarbital. *Id.* (citing Def. Ex. 35, Pharmacist Dep. at 52:10–22.) The Pharmacist has never searched for the necessary API to compound pentobarbital and in fact was not aware that pentobarbital API is available. *Id.* (citing Def. Ex. 35, Pharmacist Dep. at 52:23–53:15). Despite having searched for and found the API for midazolam, the Pharmacist did not search for pentobarbital on the database where they found the API for midazolam. *Id*. (citing Def. Ex. 35, Pharmacist Dep. at 60:7–25, 61:1–9.)

C. Firing Squad

Defendants argue that execution by firing squad cannot be "readily implemented" because it is "expensive" and "requires construction of complex facilities." Defs.' Br. at 36. It is curious that TDOC "does not know where it would begin," *id.*, because the sole fact witness Defendants chose to depose in this case was Steven Turley, designated as the Rule 30(b)(6) representative from Utah's Department of Corrections ("UDC"). Defendants examined Mr. Turley at length on several topics directly related to the feasibility and implementation of execution by firing squad, including, but not limited to, Utah's firing squad protocol, the equipment used to carry out an execution by firing squad, the planning and construction of facilities used to carry out execution by firing squad, the maintenance and outfitting of the facilities and ballistics safety equipment used to carry out execution by firing squad, the selection and training of personnel to perform execution by firing squad, and the cost and resources associated with implementing a firing squad execution protocol. PSAMF ¶ 44. Further, TDOC can review other states' firing squad execution protocols, including an overview of South Carolina's firing squad protocol that is publicly available, as well as the United States Military firing squad protocol. Pl.'s Resp. SUMF ¶ 283 (citing Def. Ex. 4, TDOC 30(b)(6) Dep. 181:3–7,

13–17; Def. Ex. 8, Williams Dep., Ex. 5 to Williams Dep; Pl. Ex. 11, South Carolina DOC Press Release).

To the extent Defendants suggest the necessary equipment might be difficult to obtain, the proof shows otherwise. The chair needed for a firing squad execution is "just a normal chair. You can go buy metal [from a construction supply store] and weld the chair." Pl.'s Resp. SUMF ¶ 294 (quoting Def. Ex. 43, UDC 30(b)(6) Dep. 89:13–14, 89:24–90:4)). The two-by-fours behind the chair are not specialized in any way and can be purchased at a construction store. *Id.* Plaintiff further disputes how "costly and time-intensive" it would be for Tennessee to adopt this method of execution. Defs.' Br. at 37. The $1,500,000 estimate for construction of the new facility in Utah was based on "what the square footage of the entire building would cost and then how much room is that particular execution chamber." Pl.'s Resp. SUMF ¶ 293 (quoting Def. Ex. 43, UDC 30(b)(6) Dep. 88:2–5). In other words, UDC is constructing an entirely new prison facility, and the construction plan did not specify that the "cost of the execution chamber is X. It was just it's [sic] part of the room inside of the building." *Id.* (quoting Def. Ex. 43, UDC 30(b)(6) Dep. 91:18–92:11).

Recently, the South Carolina Department of Correction's ("DOC") Capital Punishment Facility was renovated to include the capacity to perform an execution by firing squad. PSAMF ¶ 50. In South Carolina's execution chamber, the "firing squad chair is metal with restraints and is surrounded by protective equipment. The chair faces a wall with a rectangular opening 15 feet away." PSAMF ¶ 51 (quoting Pl. Ex. 11, South Carolina DOC Press Release). The chair for firing squad executions is "in a corner of the room away from the current electric chair, which cannot be moved." *Id.* (quoting Pl. Ex. 11, South Carolina DOC Press Release). The South Carolina DOC spent about $53,600 on supplies and materials to make these changes. PSAMF ¶

53. For its part, TDOC currently has budgeted $400,000 for "Execution Related Services" for the 2022 fiscal year, which includes a $62,000 pharmacological services cost per execution. PSAMF ¶ 56 (citing Pl. Ex. 19, TDOC Delegated Authority for Execution Related Services).

Defendants also argue that execution by firing squad is "unreliable and poses a substantial risk of pain." Defs. Br. at 37. Plaintiff disagrees. The pain from gunshot wounds "can be and often is relatively minor, if not virtually painless." Pl.'s Resp. SUMF ¶ 308 (quoting Def. Ex. 48, Williams Rep. at 4). Targeting the heart and the great vessels that lead to and from it in the chest (together, the "cardiovascular bundle") denies the central nervous system the blood supply it requires to continue to function. *Id.* A firing squad simultaneously shooting multiple, major caliber projectiles at an individual will result in a great degree of damage to the cardiovascular bundle and rapid incapacitation (loss of consciousness within ten seconds or less) and cortical/brainstem death within a matter of minutes thereafter. *Id.* Though it is theoretically possible that any number of things could go wrong, that is true of any type of execution, including especially lethal injection. *See* Section I.B, *supra*. Defendants cite no evidence suggesting that any firing squad execution has ever been thwarted by rain or wind, faulty ammunition, human error, or any other such factor. *See* Pl.'s Resp. SUMF ¶ 314.

Plaintiff disputes that brain death will not occur immediately even after a gunshot wound sufficient to cause cardiovascular incapacitation. Pl.'s Resp. SUMF ¶¶ 304–05, 316. Once the blood supply is stopped (i.e., cardiovascular incapacitation), loss of consciousness ensues in ten seconds or less, and cortical/brainstem death inevitably follows within a matter of minutes. Pl.'s Resp. SUMF ¶ 316. Although a gunshot wound delivered to eighty percent of the chest may not necessarily produce cardiovascular incapacitation, a gunshot wound delivered under a firing squad protocol will produce a "highly predictable response; [individuals who have been shot in

the cardiovascular bundle] stop all purposeful movement almost immediately and they cease any signs of life or response in less than ten seconds." Pl.'s Resp. SUMF ¶ 310 (quoting Def. Ex. 8, Williams Dep. 91:11–23). Any certified peace officer in Tennessee must be able to "hit at a specific target in a specific range," and the "standard that they must meet in . . . the rifle qualification is a higher standard than would be required to hit a 3-inch circle or 4-inch circle, on the chest of a condemned person, at a distance of 21 feet." Pl.'s Resp. SUMF ¶ 288 (quoting Def. Ex. 8, Williams Dep.73:13–23).

Defendants' assertion that "[a] person may remain conscious or even mobile after receiving a fatal gunshot wound" is misleading. Defs.' Br. at 38. It does not explain that the examples their expert cites are (1) a man who was shot in the left part of the chest with a shotgun with birdshot pellets (.095 inch) that are half the size of BBs (.18 inch), and (2) an individual who was shot once in the left back with a .25 ACP pistol. PSAMF ¶ 45 (citing Def. Ex. 17, Li Dep. 244:17–245:4; 248:1–6). As Defendants' expert acknowledged, the .25 ACP pistol is a small caliber gun, which will produce less severe damage as compared to a large caliber, high velocity rifle if the person is shot somewhere besides the head. PSAMF ¶ 46 (citing Def. Ex. 17, Li Dep. 249:19–21; 251:2–7). Utah, South Carolina, and the U.S. Military protocols all require the use of center-fired rifles, which are high velocity weapons, in their executions by firing squad. PSAMF ¶ 47 (citing Def. Ex. 43, UDC 30(b)(6) Dep. 29:14–17; Pl. Ex. 11, South Carolina DOC Press Release; Def. Ex. 48, Williams Rep. at 11–12; *see also* Def. Ex. 8, Williams Dep. 62:6–8, Def. Ex. 48, Williams Rep. at 9, 10).

Regarding Defendants' general safety concerns, the evidence shows it is extremely unlikely that a firing squad execution might result in harm to others. The risk that a bullet could ricochet during an execution is "virtually nil." Pl.'s Resp. SUMF ¶ 317 (quoting Def. Ex. 8,

Williams Dep. 68:18–22); *see also* Williams Dep. 69:13–16 ("[S]o there's a remote possibility that a ricochet could come back through one of those slots and injure one of the execution squad members, but again, the likelihood of that is extremely small."); Def. Ex. 43, UDC 30(b)(6) Dep. 51:2-5 ("I guess [a bullet could ricochet through a portal and hit an executioner]. It would be extremely unlikely."); *id.* at 51:12–14 (same for ricochets hitting an observation window); Def. Ex. 48, Williams Rep. at 13 (discussing safety precautions that prevent the possibility of ricochets).

In contrast to Tennessee's current Protocol, which is sure or very likely to cause severe pain and suffering, an execution conducted by firing squad will result in a "quick and painless death." Pl.'s Resp. SUMF ¶ 303 (quoting Def. Ex. 48, Williams Rep. at 14; Def. Ex. 8, Williams Dep. 55:2–25 ("Death by gunshot wound, by firing squad, is about as painless as it gets. . . ."), 60:19–21, 87:3–11)). Firing squad is feasible and readily implemented in Tennessee. Pl.'s Resp. SUMF ¶ 285 (citing Def. Ex. 48, Williams Rep. at 13; Def. Ex. 4, TDOC 30(b)(6) Dep. 179:5–8, 179:12–16, 179:17–20, 179:21–24 (admitting TDOC employees are required to complete firearms training as a requirement of employment at TDOC; TDOC provides firearms training and has access to a firearms range or shooting range; TDOC owns firearms and can readily acquire firearms; TDOC owns ammunition and can readily acquire ammunition); Def. Ex. 43, UDC 30(b)(6) Dep., Def. Ex. 5 to UDC 30(b)(6) Dep. (UDC firing squad protocol); Def. Ex. 8, Williams Dep., Ex. 5 to Williams Dep. (United States Military firing squad protocol); Def. Ex. 43, UDC (30(b)(6) Dep. 42:1–18, 45:4–5, 45:21–46:6, 48:12–16, 50:1–22, 51:6–8, 51:10–11, 95:21–22 (explaining UDC's safety precautions for firing squad executions); Def. Ex. 43, UDC (30(b)(6) Dep. 86:17–25 (the only differences between execution chambers for use in lethal injection executions or firing squad executions are the "portals for the rifles and ballistics

windows and Kevlar behind [the chair where the condemned sits]"; Def. Ex. 43, UDC 30(b)(6) Dep. 29:14–17 (UDC uses 30-caliber rifles for firing squad executions)).

D. Single Bullet to the Back of the Head

Defendants argue that execution by firing a single bullet into the back of the head at close range is not viable because no other state has ever adopted or implemented it. Defs.' Br. at 34–35 (citing *Johnson*, 954 F.3d at 1102). The sole authority Defendants cite in support of this argument is *Johnson*, an Eighth Circuit case that is not binding here. No court within the Sixth Circuit has adopted the rationale of *Johnson*, and the Sixth Circuit itself has opined, in a case decided after *Johnson*, that "a prisoner asserting a method-of-execution claim is free to look outside of already authorized methods as well." *In re Smith*, 806 F. App'x 462, 464 (6th Cir. 2020) (citing *Bucklew*, 139 S. Ct. at 1128).

Defendants also argue that execution by single bullet to the back of the head does not significantly reduce a substantial risk of severe pain. Defs.' Br. at 35. Although Plaintiff's expert acknowledged during his deposition that "any small target's hard to hit," he further opined that "[d]eath by gunshot wound, by firing squad, is as [sic] about as painless as it gets, short of a gunshot wound directly to the brain stem, which is the only thing . . . I can think of that will actually result in an instantaneous death with no more neurological impulses conveying pain to the brain," Pl.'s Resp. SUMF ¶ 280 (quoting Def. Ex. 8, Williams Dep. 35:19, 55:21–56:1). This is, at minimum, a disputed material fact warranting trial on the feasibility of a single bullet to the back of the head as an alternative to the Protocol.

E. Oral Administration

Defendants' arguments against the viability of a euthanasia oral cocktail reveal disputes of material fact that render this case inappropriate for summary judgment.

First, Defendants argue against the viability of this alternative because no other state has ever adopted or implemented it. Defs.' Br. at 40 (citing *Johnson*, 954 F.3d at 1102). For the same reasons that apply with respect to a single bullet to the back of the head, *see supra* Section II.D, the Court should decline to accept this argument.

Next, Defendants argue that Plaintiff has no evidence showing Defendants can obtain secobarbital, digoxin, morphine sulfate, and propranolol for use in executions through ordinary transactional effort. This argument ignores that the drugs administered in the medical-aid-in-dying ("MAID") procedure—digoxin, diazepam, morphine, amitriptyline, and phenobarbital (DDMAPh)—are "widely available in Tennessee, as prescribed by a licensed physician." Pl.'s Resp. SUMF ¶ 326 (quoting Def. Ex. 49, Blanke Rep. at 1–2). Further, the Pharmacist currently working with TDOC has no reason to believe that the Pharmacy would be unable to obtain digoxin, morphine, secobarbital, or propranolol for use in executions. *Id.*

Finally, Defendants argue that the oral cocktail would not significantly reduce a substantial risk of severe pain. Defendants' contention that "Plaintiff did not even retain experts to testify regarding the effectiveness of either alternative," Defs.' Br. at 40, is disingenuous; although the specific formulation of the euthanasia oral cocktail has changed since Plaintiff initially retained expert Dr. Charles Blanke, Defendants are well aware of this change and understand that Dr. Blanke has expertise in both past and present formulations of the euthanasia oral cocktail.[13] Dr. Blanke concludes to a reasonable degree of medical and scientific certainty

[13] In his Amended Complaint, Plaintiff alleged "euthanasia oral cocktail" as an alternative method of execution. Dkt. 51 at 34. Plaintiff noted two separate methods of euthanasia by oral cocktail, both of which could be a "feasible alternative as demonstrated by . . . Death with Dignity laws." *Id*. at 35. Since the filing of the amended complaint, an additional euthanasia oral cocktail of DDMAPh has become the most commonly used method in Oregon, and increasingly and commonly used in states where Death with Dignity laws have been enacted. Def. Ex. 49, Blanke Rep. at 4. Based on the Amended Complaint alone, Defendants had sufficient notice under Rule 8

that administration of the DDMAPh protocol via oral ingestion or a nasogastric tube "is virtually certain to cause death and will do so quickly and painlessly." Pl.'s Resp. SUMF ¶ 11 (quoting Def. Ex. 49, Blanke Rep. at 1). Placing a nasogastric tube after use of a topical anesthetic is not painful under any circumstance. Pl.'s Resp. SUMF ¶¶ 331–32. Though movement of the head could make "initiating of the placement of the [nasogastric] tube more difficult," Blanke Dep. 83:1–14, neither Defendants nor their expert, Dr. Antognini, cite any source supporting the proposition that placement of a nasogastric tube in an uncooperative inmate would increase the risk of complications. Pl.'s Resp. SUMF ¶ 333. Any patients who survived up to 104 hours after ingesting MAID drugs ingested only pentobarbital. Pl.'s Resp. SUMF ¶ 341. The current DDMAPh regimen "works extremely rapidly and has been 100% effective at causing death." Pl.'s Resp. SUMF ¶ 342 (quoting Def. Ex. 49, Blanke Rep. at 4).

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that the oral euthanasia cocktail was based on current methods of Death with Dignity laws. *See Carter v. Ford Motor Co.*, 561 F.3d 562, 565–66 (6th Cir. 2009) (internal citations omitted). Defendants were then explicitly notified that Mr. King would proceed with DDMAPh as an alternative method of execution during the course of the proceedings when they received Dr. Blanke's report on November 17, 2021. *See* Def. Ex. 49, Blanke Rep. at 4. Subsequently, Defendants deposed Dr. Blanke and questioned him extensively on DDMAPh. *See* Def. Ex. 21, Blanke Dep. (Jan. 18, 2022). Given these proceedings, Defendants had adequate notice that Mr. King would advance the DDMAPh oral cocktail as an alternative method of execution. *See Copeland v. Regent Elec. Inc.*, 499 F. App'x 425, 435 (6th Cir. 2012) (explaining the Sixth Circuit employs a "'course of the proceedings test' to determine whether defendants have received notice of the plaintiff's claims") (quoting *Carter*, 561 F.3d at 566).

CONCLUSION

In light of the parties' numerous and genuine disputes over material facts, Defendants are not entitled to judgment as a matter of law. Plaintiff respectfully requests Defendants' Motion for Summary Judgment be denied in its entirety.

Dated: April 13, 2022

Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on April 13, 2022, I electronically filed the foregoing document with the Clerk of Court using the CM/ECF system. Notice of this filing will be sent through the Court's electronic filing system to all parties indicated on the electronic filing receipt with includes:

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